

CLAIMS

1. A tether system for animal testing comprising:
a tether connectable to an animal;
a swivel attached to the tether, the swivel having parts rotatable relative to each other;
at least one conduit within the tether and swivel; and
a motor connected to the swivel for rotating at least one part of the swivel relative to another part.
2. The tether system of claim 1, wherein the at least one conduit includes a fluid channel.
3. The tether system of claim 1, wherein the at least one conduit includes an electrical lead.
4. The tether system of claim 1, wherein the at least one conduit includes an optical lead.
5. The tether system of claim 1, further comprising:
a sensor mechanism for detecting rotation of the tether; and
a motor control system activating the motor when the sensor detects rotation of the tether.
6. The tether system of claim 5, wherein the sensor mechanism includes:
a tether connector attached to the tether;
a hinge connecting the tether connector to a rotatable part of the swivel, the hinge having an axis substantial parallel to an axis of rotation of the swivel; and
a sensor for determining a position of the tether connector on the hinge.

7. The tether system of claim 6, wherein the sensor includes:
at least one magnet on the tether connector; and
at least one reed switch on the swivel.
8. The tether system of claim 1, further comprising a cantilever balance arm attached to the swivel so that the swivel is positioned above the animal.
9. The tether system of claim 8, wherein the motor is suspended from the cantilever arm.
10. A motor assisted swivel comprising:
a swivel attached to the tether, the swivel having parts rotatable relative to each other;
at least one conduit within the swivel; and
a motor connected to the swivel for rotating at least one part of the swivel relative to another part.
11. The motor assisted swivel of claim 10, further comprising:
a sensor mechanism for detecting rotation of a tether connected to the swivel; and
a motor control system activating the motor when the sensor detects rotation of the tether.
12. The motor assisted swivel of claim 11, wherein the sensor mechanism includes:
a tether connector attached to the tether;
a hinge connecting the tether connector to a rotatable part of the swivel, the hinge having an axis substantial parallel to an axis of rotation of the swivel; and
a sensor for determining a position of the tether connector on the hinge.
13. The motor assisted swivel of claim 12, wherein the sensor includes:

at least one magnet on the tether connector; and

at least one reed switch on the swivel.

14. A method for rotating a swivel in a tether system for animal testing, the swivel having parts rotatable relative to each other, the method comprising the steps of:

detecting a direction of rotation of a tether in the tether system; and

activating a motor connected to at least one part of the swivel to rotate the at least one part of the swivel relative to another part of the swivel in the detected direction of rotation of the tether.

15. The method for rotating a swivel according to claim 14, further comprising the steps of:

detecting a cessation of rotation of the tether; and

deactivating the motor to cease rotation of the at least one part of the swivel upon detection of a cessation in rotation of the tether.